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(1) Publication number : 0 492 952 A1

(12)

## EUROPEAN PATENT APPLICATION

(21) Application number : 91311736.2

(51) Int. Cl.<sup>5</sup> : H01L 21/48

(22) Date of filing : 18.12.91

(30) Priority : 18.12.90 US 629440

(43) Date of publication of application :  
01.07.92 Bulletin 92/27

(84) Designated Contracting States :  
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

(71) Applicant : AMKOR ELECTRONICS, INC.  
1345, Enterprise Drive  
West Chester, Pennsylvania 19380 (US)

(72) Inventor : Johnson, Frank J  
501, Stagg Lane Santa Cruz  
Santa Cruz County California 95062 (US)

(74) Representative : Valentine, Francis Anthony  
Brinsley  
REDDIE & GROSE 16 Theobalds Road  
London WC1X 8PL (GB)

(54) Method of and apparatus for producing a strip of lead frames for integrated circuit dies in a continuous system.

(57) Lead frames for microchips and other integrated circuit dies are produced by a continuous manufacturing method and apparatus in which silver spot plating is done prior to etching away unwanted portions of the lead frame substrate. A flexible substrate of a metal alloy is fed continuously from a reel, then spot plated with silver, coated with a photosensitive material, and exposed to intensive light in an exposure chamber using a photoresist or masking tool of predetermined design. The exposed photosensitive material is developed chemically, etched in acid, and placed in a chemical solution to remove any remaining unwanted material. The strip is then dried, cut to predetermined lengths and boxed for shipment. If necessary, the strip is downset and taped before packaging. In a presently preferred process, the metal alloy substrate is 42 alloy (Fe + Ni), and the selective spot plating is silver 100 to 150 microinches (2.5 to 3.8 microns) thick. The silver does not dissolve in the etchants and therefore has to be removed from exposed areas, preferably by "reverse" plating techniques.

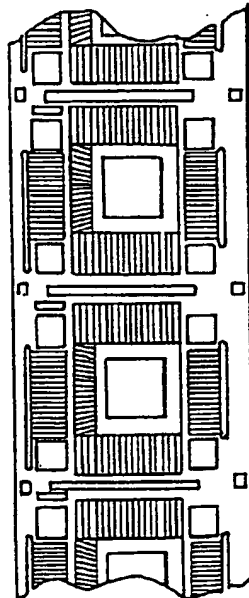


FIG. 2

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